

WHAT IS CLAIMED IS:

1. A transmission configuration for correctly processing batches of scan data within in a scanner, comprising:

5 a synchronous dynamic memory for holding scan data, wherein the synchronous dynamic memory also has a masking function for processing a portion of the scan data; and

a first buffer unit coupled to the synchronous dynamic memory serving as a temporary storage area of scan data sent from the synchronous dynamic memory.

10 2. The transmission configuration of claim 1, wherein the masking function of the synchronous dynamic memory is capable of blanking unwanted data when the quantity of useful scan data is less than the quantity of data a burst mode can transmit.

3. The transmission configuration of claim 1, wherein the transmission configuration further includes:

15 a video processor for generating scan data;

a second buffer unit coupled to the video processor for holding scan data transmitted from the video processor;

a buffer controller coupled to the second buffer unit for processing the stored scan data within the second buffer unit;

20 a first counter coupled between the synchronous dynamic memory and the first buffer unit for computing the quantity of scan data transmitted from the synchronous dynamic memory to the first buffer unit; and

a first comparator coupled to the first counter for comparing a preset data transmission quantity and the quantity of scan data registered in the first counter and computing their difference.

4. The transmission configuration of claim 3, wherein the last remaining batch
5 of scan data is tagged by the video processor.

5. The transmission configuration of claim 4, wherein the synchronous dynamic memory is able to transmit the last batch of scan data and terminates read operation based on the tag on the scan data.

6. The transmission configuration of claim 5, wherein the synchronous dynamic
10 memory initiates a blanking operation when the last remaining batch of data do not have sufficient quantity of data to occupy all the data slots for a burst mode transmission.

7. The transmission configuration of claim 3, wherein the buffer controller triggers the second buffer unit into executing a read command when the second buffer unit has received the preset transmission quantity.

8. The transmission configuration of claim 3, wherein the preset transmission
15 quantity is the amount of data capable of being read or written in a burst mode transmission.

9. The transmission configuration of claim 3, wherein the buffer controller further includes:

20 a second counter coupled between the video processor and the second buffer unit serving to compute the quantity of scan data transmitted from the video processor to the second buffer unit;

a third counter coupled between the second buffer unit and the synchronous dynamic memory to compute the quantity of scan data transmitted from the second buffer unit to the synchronous dynamic memory; and

5 a second comparator coupled between the second counter and the third counter for comparing the values obtained from the second and the third counter and finding their difference.

10. A method for correctly transmitting batches of scan data to a synchronous dynamic memory using the internal devices within a scanner, comprising the steps of:

10 (a) determining if the quantity of scan data written into the synchronous dynamic memory is greater than or equal to the transmission quantity of a burst mode transmission;

(b) executing a write command so that the scan data is written into the synchronous dynamic memory if the quantity of scan data is greater than or equal to the transmission quantity;

15 (c) determining if the scan data is the last remaining scan data if the quantity of scan data is smaller than the transmission quantity;

(d) executing a write command so that the last remaining scan data is written into the synchronous dynamic memory if the scan data is the last remaining scan data; and

20 (e) returning to step (a) if the scan data is not the last remaining scan data until all the scan data is written into the synchronous dynamic memory.

11. The method of claim 10, wherein the step of determining if the scan data is the last remaining scan data or not includes finding a tag in the scan data.

12. A method for correctly reading out batches of scan data from a synchronous dynamic memory using the internal devices within a scanner, comprising the steps of:

(a) determining if the quantity of scan data in the synchronous dynamic memory is greater than or equal to the transmission quantity of a burst mode
5 transmission;

(b) executing a read command so that the scan data is read from the synchronous dynamic memory and written into a buffer unit if the quantity of scan data is greater than or equal to the transmission quantity;

(c) determining if the scan data is the last remaining scan data if
10 the quantity of scan data is smaller than the transmission quantity;

(d) executing a read command so that the last remaining scan data is written into the buffer unit if the scan data is the last remaining scan data; and

(e) determining if the quantity of scan data stored in the synchronous dynamic memory is greater than or equal to the transmission quantity of a
15 burst mode transmission if the scan data is not the last remaining scan data, continuing until all the scan data are read from the synchronous dynamic memory and written into the buffer unit.

13. The method of claim 12, wherein the blanking function of the synchronous dynamic memory can be used to blank out redundant data when the quantity of scan
20 data is less than the transmission quantity in a burst mode transmission.